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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,096	05/31/2006	Yuji Yamada	290541US8PCT	5377

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EXAMINER	
MONIKANG, GEORGE C	

ART UNIT	PAPER NUMBER
2615	

NOTIFICATION DATE	DELIVERY MODE
11/30/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/581,096	Applicant(s) YAMADA ET AL.	
	Examiner George C. Monikang	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/571,096.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/22/2007, 5/31/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 & 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kling, US Patent 7,088,833 B1.

Re Claim 1, Kling discloses an audio signal processing apparatus adapted for delivering an audio signal to a speaker system including at least two drive units or more which are divided or separated by frequency band (abstract), the audio signal processing apparatus comprising: filter means for processing the input audio signal on the basis of correction characteristic of impulse response of the speaker system in order to correct shift between phases of respective sound waves radiated from respective drive surfaces of the two drive units or more of the speaker system (abstract), thus to deliver, to the speaker system, an audio output signal which has been caused to undergo signal processing by the filter means (abstract).

Re Claim 2, Kling discloses the audio signal processing apparatus as set forth in claim 1, wherein the two drive units or more are caused to be of the configuration in which a drive unit for reproducing a signal at high frequency band and a drive unit for

reproducing a signal at low frequency band (col. 4, lines 42-51) are attached in the state where they are coaxially disposed (fig. 5: 4, 13 & 15).

Claim 16 has been analyzed and rejected according to claim 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3-15 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kling, US Patent 7,088,833 B1 as applied to claim 1 above, in view of Yamada et al, US Patent 5,757,931.

6. Re Claim 3, Kling discloses the audio signal processing apparatus as set forth in claim 1, but fails to disclose wherein the filter means serves to realize correction characteristic of the impulse response by FIR filter to process the input audio signal. However, Yamada et al does (abstract).

Taking the combined teachings of Kling and Yamada et al as a whole, one skilled in the art would have found it obvious to modify the audio signal processing apparatus of Kling with wherein the filter means serves to realize correction characteristic of the impulse response by FIR filter to process the input audio signal as taught in Yamada et al (abstract) to extend the impulse response in time.

Claims 4 & 17 have been analyzed and rejected according to claims 1 & 3.

Re Claim 5, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein transmission characteristic that the first filter means has is frequency characteristic in which group delay characteristic is constant (Yamada et al, col. 3, lines 8-20).

Re Claim 6, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein transmission characteristic that the first filter means has is characteristic for conducting a control such that sound image localization position in the case where an input audio signal is reproduced by plural speakers results in an arbitrary position (Yamada et al, col. 11, lines 54-67).

Re Claim 7, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein transmission characteristic that the first filter means has is impulse response characteristic of an arbitrary room (Yamada et al, col. 12, lines 1-13).

Re Claim 8, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein transmission

characteristic that the first filter means has is impulse response characteristic of an electro-acoustic transducer (Kling, fig. 5; col. 4, lines 42-51).

Re Claim 9, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 8, wherein impulse response characteristic of an electro-acoustic transducer which is transmission characteristic that the first filter means has is impulse response characteristic of speaker or headphone system (Yamada et al, fig. 6: 66; col. 8, lines 10-17).

Re Claim 10, the combined teachings of Kling and Yamada et al discloses the audio signal processing apparatus as set forth in claim 8, but fail to disclose wherein impulse response characteristic of an electro-acoustic transducer which is transmission characteristic that the first filter means has is impulse response characteristic of record needle. Official notice is taken that both the concept and advantages of having a record needle are well known in the art. It would have been obvious to use a record needle since they are commonly used to read records.

Re Claim 11, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 8, but fail to disclose wherein impulse response characteristic of an electro-acoustic transducer which is transmission characteristic that the first filter means has is impulse response characteristic of recording/reproducing device. Official notice is taken that both the concepts and advantages of using a recording/reproducing device are well known in the art. It would have been obvious to use a recording/reproducing device such as a CD player since they are commonly used to record or reproduce sound.

Re Claim 12, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 8, wherein impulse response characteristic of an electro-acoustic transducer which is transmission characteristic that the first filter means has is impulse response characteristic of a frequency characteristic adding unit (*Yamada et al, fig. 7: 77 & 78*).

Claim 13, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 8, wherein impulse response characteristic of an electro-acoustic transducer which is transmission characteristic that the first filter means has is impulse response characteristic of an audio amplifier (*Yamada et al, fig. 6: 65*).

Claim 14, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein the first filter means serves to add, to the input audio signal, impulse response characteristic which has been selectively switched among impulse response characteristics of plural kinds of electro-acoustic transducers (*Yamada et al, fig. 4: 44, 48, 51 & fig. 6: 66*).

Claim 15, the combined teachings of Kling and Yamada et al disclose the audio signal processing apparatus as set forth in claim 4, wherein the first filter means and the second filter means are comprised of FIR filter (*Yamada et al, fig. 4: 44, 48, 51*).

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-

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270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

11/25/07

  
XU MEI  
PRIMARY EXAMINER